

LedgerX and Beyond: Cryptocurrency Challenging Regulatory Boundaries

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ABSTRACT

Modern financial markets are contending with the influx of a new class of digital assets known as “virtual currencies” or “cryptocurrencies.” Some cryptocurrencies, like bitcoin, function like an actual currency, while others bear no resemblance to currency and function more like a hybrid instrument, security, commodity, software application, or like something completely new.

The inherent novelties of cryptocurrencies make it difficult to ascertain their standing under the law and the appropriate agency of oversight. Regulators recognize the transformative potential of the technology underlying cryptocurrencies; however, they fail to adhere to a comprehensive approach of regulation. Numerous fragmented regulatory regimes expose market participants to potentially extensive liability. Legal and operational uncertainty only increase the volatile nature of the young industry and undermine the efforts of innovators.

The stage has been set for large institutional investors to enter cryptocurrency markets as exchanges begin to offer cryptocurrency-based derivatives, a type of financial instrument that offers risk-mitigating functions and allows parties to exchange values based on an asset without necessarily owning it. As more capital flows into the industry, the need for a uniform legal framework becomes paramount. This article asserts that an accommodating, flexible regulatory approach operates to effectively address these new assets, while also allowing the industry to age and develop workable standards of best practices.

TABLE OF CONTENTS

I. INTRODUCTION

II. FINANCIAL REGULATION IN THE UNITED STATES

- a. Overview of Derivatives*
- b. A History of Functional Regulation*
- c. Regulating Derivatives: The SEC and CFTC*
- d. The Revolution of Financial Derivatives*
- e. Hybrid Products and Jurisdictional Battles*
- f. Continuing the Cycle: The Financial Crisis and Dodd-Frank*

III. A PRIMER ON CRYPTOCURRENCY

- a. Blockchain Systems*
- b. Cryptography and Public/Private Keys*
- c. Distinguishing Cryptocurrency, Cryptocommodities, and Cryptotokens*
 - i. Cryptocurrencies*
 - ii. Cryptocommodities*
 - iii. Cryptotokens and ICOs*

IV. REGULATORS ASSERT JURISDICTION OVER CRYPTOCURRENCIES

- a. *FinCEN*
 - b. *The IRS: “Property”*
 - c. *The SEC: “Security”*
 - d. *The CFTC: “Commodity”*
 - e. *LedgerX: “Fully Collateralized Cryptocurrency Derivatives”*
 - f. *State Regulators*
 - g. *International Landscape*
- V. CRYPTOCURRENCY PUSHING REGULATORY BOUNDARIES
- a. *A Multitude of Regulators*
 - b. *“Actual Delivery”*
- VI. SOLUTION: A UNIFIED AND FLEXIBLE REGULATORY FRAMEWORK
- a. *Defining Cryptocurrencies: Revisiting Precedent*
 - b. *Clarifying “Actual Delivery”*
 - c. *Exemption from Registration and Clearing Requirements*
 - d. *Self-Regulation and Substituted Compliance*
 - e. *Joint Regulatory Committee*
- VII. CONCLUSION

I. INTRODUCTION

*We must decide whether tetrahedrons belong in square or round holes.*¹

The popularity of bitcoin, the most well-known “virtual currency,” has spawned a new age of digital assets.² Virtual currencies are described as “digital representations of value” that can function as “a medium of exchange, a unit of account, and/or a store of value.”³ The term “virtual currency” is often used interchangeably with the term “cryptocurrency”—this reflects their ability to be cryptographically transferred and verified through complex mathematical code and recorded on an immutable, shared ledger, also known as a blockchain.⁴

The Commodity Futures Trading Commission (CFTC) made history by permitting LedgerX, a private institution, to operate as a federally-regulated clearing and execution facility for derivative instruments whose value is based on virtual currencies like bitcoin.⁵ The Securities and Exchange Commission (SEC), on the other hand, denied a bid earlier in 2017 for an exchange-traded fund (ETF) that tracked the price of Bitcoin, citing the lack of surveillance mechanisms, lack of regulation, and the potential for fraud.⁶

¹ *Chicago Mercantile Exchange v. SEC*, 883 F.2d (7th Cir. 1989) (describing the role judges are often called to play in determining whether new, complex products fit under one existing regulatory framework or another).

² It is important to distinguish digital currency from virtual currency. Since the 1970s, money has been increasingly digital. The dollar and the euro are “digital currencies” in that only 8 percent of them exist in physical form and the rest are numbers on a ledger. Virtual currency, however, refer to an intangible asset that has no physical form. *See* ANDREAS M. ANTONOPOULOS, *THE INTERNET OF MONEY*, Vol. 25–26 (March 20, 2017).

³ Virtual Currency Guidance, IRS Notice 2014-21 (March 25, 2014).

⁴ *See infra* Part III(b) (explaining cryptography, the use of ciphers and code to securely transmit messages, as it pertains to cryptocurrencies).

⁵ CFTC, CFTC Grants DCO Registration to LedgerX LLC, Press Release (July 24, 2017), available at <http://www.cftc.gov/PressRoom/PressReleases/pr7592-17> (last visited Nov. 7, 2017).

⁶ Securities and Exchange Commission, Release No. 34-80206, Order Disapproving a Proposed Rule Change (March 10, 2017) (stating that because many virtual currencies trade off-exchange and frequently in foreign jurisdictions with little U.S. oversight, the exchange was unable to enter into a surveillance-sharing agreement with “significant markets for trading the underlying commodity or derivatives” thereon).

The establishment of a market for cryptocurrency derivatives demonstrates the significant impact that these new digital assets will have on the future of our financial marketplaces and world economies. As this young market grows, the need for legal certainty as to the appropriate regulator becomes paramount. This legal uncertainty stands as a roadblock to widespread adoption and use of such financial products.

This article contends that regulators would benefit from a uniform approach that is flexible and takes into account the economic realities unique to cryptocurrencies. It discusses how broad regulatory declarations should be avoided in the cryptocurrency space, as they fail to take into account a diverse range of characteristics and can become quickly outdated. The following sections use industry examples to demonstrate how, in some cases, the technology underlying cryptocurrencies operates to accomplish objectives similar to those forwarded by regulators, such that onerous and costly regulation and ongoing compliance requirements prove unnecessary and superfluous.

This note begins with an introduction to cryptocurrency derivatives and the importance of legal clarity for the industry. Part II provides an overview of derivatives and the history of their regulation. Part III introduces the various types of cryptocurrency and notes how they compare to legacy financial products. Part IV discusses regulators' approaches to cryptocurrencies and recent enforcement proceedings. Part V analyzes the issues in regulating cryptocurrencies, namely that they do not fit within existing definitions of financial instruments. Part VI describes a model future regulatory environment that operates to the benefit of the industry as mainstream adoption of cryptocurrencies continues. Concluding remarks consider the path moving forward and potential roadblocks to implementing the proposed framework

II. FINANCIAL REGULATION IN THE UNITED STATES

Financial markets work best when they offer every possible combination of risk and return... Exchanges and professional investors therefore continually devise financial products to fill unoccupied niches...New products...are designed to depart from today's models.⁷

Innovation in the financial world creates endless issues for regulators attempting to keep up with the ever-evolving, hybrid instruments flooding onto the marketplace.⁸ Regulators must determine how and if they fit within an existing regulatory structure or if regulation must be enacted to accommodate them. Regulators are tasked with balancing innovation, on one hand, while simultaneously protecting investors and market stability.

Derivatives based on virtual currencies have naturally developed to answer demand from investors and institutional entities wishing to combat the volatility that accompanies cryptocurrency investments. Derivatives are contracts that derive their value or price from

⁷ See *Chicago Mercantile Exchange v. Securities & Exchange Commission*, 883 F.2d 537 (7th Cir. 1989) (discussing the development of option contracts, which exhibit the attributes of both futures contracts and securities).

⁸ "Only merger of agencies or functional separation in the statute can avoid continual conflict. Functional separation is hard to achieve (new instruments will appear at any border)." *Id.* at 544.

another asset.⁹ A derivative product provides risk-mitigating and price discovery functions, as well as a means of speculation.¹⁰ Derivatives markets developed as a means for agricultural producers to conduct their business with economic certainty—farmers could protect against the risk of a price change in a given commodity before their crop was ready to be harvested.¹¹

a. Overview of Derivatives

Derivatives fall into one of two categories: exchange-traded derivatives (ETDs) and over-the-counter (OTC) derivatives.¹² ETDs trade on a designated exchange and are subject to a litany of regulations. ETDs include futures contracts and stock options. OTC derivatives were historically effectuated “over-the-counter,” not on a regulated exchange, and subject to specific negotiations between the transacting parties.¹³ OTC derivatives include swaps and forward contracts.¹⁴

A futures contract gives the buyer the contractual right to make or take delivery of a particular commodity at a particular time in the future.¹⁵ Futures contracts are fungible in that they contain standardized terms for the amount of the commodity, the delivery months, last trading day, delivery locations, and acceptable qualities.¹⁶ The statute describes futures contracts as “contracts of sale of a commodity for future delivery.”¹⁷ “Future delivery” is not defined in the statute; however, “future delivery” does not include “any sale of any cash commodity for deferred shipment or delivery.”¹⁸ The definition of a “commodity” is broad and includes “all services, rights, and interests in which contracts for future delivery are presently or in the future dealt in.”¹⁹

An option, on the other hand, is the right, but not the obligation, to purchase or sell a particular item at a specified price for a specified period of time.²⁰ A call option gives the holder the ability to purchase the underlying asset from the other party, the option “writer,” at an agreed

⁹ A derivative is defined as “a bilateral contract or payments exchange agreement who value derives...from the value of an underlying asset or underlying reference rate or index.” Global Derivatives Study Group of the Group of Thirty, *Derivatives: Practices and Principles* 28 (1993).

¹⁰ See *Procter & Gamble Co. v. Bankers Trust Co.*, 925 F.Supp. 1270 (S.D. Ohio 1996) (stating “[w]ithin the broad panoply of derivatives transactions are numerous innovative financial instruments whose objectives may include a hedge against market risks, management of assets and liabilities, or lowering of funding costs; derivatives may also be used as speculation for profit”).

¹¹ CFTC, Testimony of J. Christopher Giancarlo Chairman U.S. Commodity Futures Trading Commission before the House Committee on Agriculture (Oct. 11, 2017).

¹² RONALD H. FILLER AND JERRY W. MARKHAM, *REGULATION OF DERIVATIVE FINANCIAL INSTRUMENTS (SWAPS, OPTIONS, AND FUTURES)* 219 (West Academic 2014).

¹³ See *Commodities Futures Modernization Act of 2000*, Pub. L. No. 106-554, 114 Stat. 2763 (codified as amended at 7 U.S.C. §§ 1–27(f) (2013));

¹⁴ FILLER at 2–11.

¹⁵ *Id.* at 2–5.

¹⁶ *Id.*

¹⁷ 7 U.S.C.S. § 2.

¹⁸ 7 U.S.C.S. § 2(a)(1).

¹⁹ 7 U.S.C.S. § 1(a)(9). Under the CEA, commodities are classified as “agricultural commodities,” like wheat and corn, “excluded commodities,” such as price indices, interest rates, and currencies, or “exempt commodities,” which include energy interests, precious metals and measurable events. 7 U.S.C.S. § 1(a)(9); 7 U.S.C.S. § 1(a)(19)–(2).

²⁰ FILLER at 199.

upon price, i.e. the “exercise” or “strike” price, for the specified time as measured by the expiration date.²¹ The holder also pays the writer a fee for the option right called a “premium.”²² A put option, on the other hand, gives the holder the ability to sell the item during the term of the option at the strike price.²³

A forward contract differs from both futures and options in that the contract cannot be offset and it is presumed that the parties contemplated “actual delivery” of the underlying asset.²⁴ The Act defines a futures contract as a contract for future delivery, but defines future delivery to exclude “any sale of any cash commodity for deferred shipment or delivery,”²⁵ that is, any forward contract.²⁶ Determining whether a contract is a futures or a forward will determine who, if anyone, may enter the contract and where trading can occur.²⁷

Swaps contracts operate much like forward contracts that require each party to satisfy a financial obligation rather than physically deliver and pay for an underlying asset.²⁸ Swaps also offer the privacy and customization advantages of forwards—the terms are typically subject to heavy negotiation between the transacting parties.²⁹ The most common type of swap is an interest rate swap, which allows parties to “swap” the interest payments paid on debts without refinancing.³⁰ Currency swaps are useful where one party enjoys a comparative advantage in borrowing a currency.³¹ Commodity swaps allow for protection against price movements of certain commodities—the price of the underlying commodity dictates the exchange of payments between the parties.³²

²¹ *Id.*

²² *Id.*

²³ *Id.*

²⁴ See e.g., *CFTC v. Zelener*, 373 F.3d 861 (7th Cir. 2004) (holding that the contracts were forwards and not futures despite the fact that they allowed customers to offset their positions by continually delaying delivery of the underlying currency); see also *CFTC v. Erskine*, 513 F. 3d 309 (6th Cir. 2008) (finding that the currency contracts were forwards and not futures because they were not fungible, did not trade on an exchange, did not require a particular currency, and did not have a set price or settlement date). The court stated that “a futures contract is a contract for a future transaction, while a forward contract is a contract for present transactions with future delivery.” *Id.* at 332.

²⁵ 7 U.S.C.S. § 1a(11).

²⁶ See *Nagel v. ADM Investor Servs.*, 217 F.3d 436 (7th Cir. 2000). The court distinguished futures from forward contracts:

When the following circumstances are present, the contract will be deemed a forward contract: (1) The contract specifies idiosyncratic terms regarding place of delivery, quantity, or other terms, and so is not fungible with other contracts for the sale of the commodity, as securities are fungible. But there is an exception for the case in which the seller of the contract promises to sell another contract against which the buyer can offset the first contract. That promise could create a futures contract. (2) The contract is between industry participants, such as farmers and grain merchants, rather than arbitrageurs and other speculators who are interested in transacting in contracts rather than in the actual commodities. (3) Delivery cannot be deferred forever, because the contract requires the farmer to pay an additional charge every time he rolls the hedge. *Id.* at 441.

²⁷ See *CFTC v. Zelener*, 387 F.3d 624 (7th Cir. 2004).

²⁸ JEFFREY J. HAAS, *CORPORATE FINANCE* 135 (West Academic 2014).

²⁹ *Id.* at 136.

³⁰ *Id.* (describing that in an interest rate swap, periodic interest payments are exchanged based on the “notional value” of the contract, which is the principal amount of debt upon which interest is calculated).

³¹ *Id.* at 136–137.

³² *Id.* at 137.

b. A History Functional Regulation

*[O]ur regulatory framework is a thicket of complex rules, rather than a streamlined set of commonly understood principles...*³³

The financial markets of the United States are, undoubtedly, one of the most regulated industries in existence.³⁴ Markets are plagued by fragmented regulatory frameworks generated by years of case law and a long history of legislative and regulatory responses to perceived shortcomings in market oversight.³⁵ Participants contend with a number of potential regulators, uncoordinated in their approaches.³⁶ This “functional” system, in which regulators are appointed to oversee particular financial services even if they overlap, arguably impedes the competitiveness of financial markets and frustrates attempts at determining the appropriate agency of oversight.³⁷

Derivatives occupy a unique position under the law in that some will be regulated by the SEC and others by the CFTC, depending on the intricacies of the contract.³⁸ This bifurcated approach to regulating financial transactions considers the different roles played by various markets and trade practices.³⁹ Securities markets provide for the formation and allocation of capital, whereas derivative markets allow their users to hedge risks, like the risks of commodity price changes and interest rate or currency fluctuations.⁴⁰ Markets also permit participants to establish purely speculative positions.⁴¹

Legislation has historically reflected the principle that different markets and different products necessitate varying degrees of regulation—speculative instruments, like derivatives and securities, are ones that lawmakers deem especially important to regulate due to their ability to wreak havoc on world economies.⁴² Distinctions in the law between speculation and capital

³³ Charles Schumer and Michael Bloomberg, *Sustaining New York's and the U.S.'s Global Financial Services Leadership*, Wall Street Journal (Jan. 2007) (calling for broad reform and implementation of a principles-based system to eliminate duplicity and inefficiencies).

³⁴ See United States' Economy: Over-regulated America, THE ECONOMIST (Feb. 18, 2012), available at <http://www.economist.com/node/21547789>.

³⁵ RONALD H. FILLER AND JERRY W. MARKHAM, REGULATION OF DERIVATIVE FINANCIAL INSTRUMENTS (SWAPS, OPTIONS, AND FUTURES) 63 (West Academic 2014).

³⁶ At the federal level, financial markets contend with functional regulators including the Securities and Exchange Commission (SEC), the Commodity Futures Trading Commission (CFTC), Federal Reserve Board (Fed), the Office of Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC), the Office of Thrift Supervision (OTS), the Treasury Department's anti-money launderings unit (FinCEN), and the Federal Trade Commission. Self-regulatory bodies, such as the Financial Industry Regulatory Authority (FINRA) and the National Futures Association (NFA), also regulate various aspects of the financial industry. *Id.* at 65.

³⁷ *Id.* at 64.

³⁸ See *infra* Part II(d) (discussing derivatives regulation).

³⁹ JOHN C. COFFEE, JR. ET AL., SECURITIES REGULATION: CASES AND MATERIALS 1 (13th ed. 2015).

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² See *Justh v. Holliday*, 2 Mackey 346 (D.C. 1883) (discussing the reason to outlaw contracts that do not contemplate actual delivery of an asset, but rather obligate payment based on the rise and fall of the market); see also *Merrill, Lynch, Pierce, Fenner & Smith, Inc. v. Curran*, 456 U.S. 353, 390 (1982) (stating that “[a]lthough the speculator has never been the favorite of Congress, Congress recognized his crucial role in an effective and orderly futures market and intended him to be protected by the statute as much as the hedger”).

raising or allocation, however, tend to fall apart when faced with new, complex products that blur the lines of regulatory oversight.⁴³

c. The Revolution of Financial Derivatives

Early derivatives contracts were based on agricultural commodities like grain, butter, eggs, and cotton—now, the underlying asset is typically financial in nature.⁴⁴ Regulation originally aimed at derivatives based on agricultural commodities has been repurposed to capture the modern reality of our modern markets.⁴⁵

Markets developed at various agricultural hotspots around the world to facilitate the matching of buyers and sellers of derivatives contracts. In the United States, the Chicago Board of Trade (CBOT) emerged in 1848 as market for trading forward contracts on grain.⁴⁶ Exchanges like the CBOT set standardized terms to allow a large number of participants to transact in the same contract without individual negotiations, thus producing a liquid market across geographical borders.⁴⁷ The Industrial Revolution and innovations, like the telegraph and steamship, transformed the futures industry by allowing traders to take non-local demand into price considerations.⁴⁸

Derivatives were largely unregulated until the 1920s.⁴⁹ Derivatives that traded on designated exchanges, like the CBOT, were the target of early regulation. Prior to the creation of the CFTC, early attempts at regulating derivatives focused on ETDs, including margin and delivery procedures, abusive and manipulative practices, and taxes.⁵⁰ In 1921, the Future Trading Act (FTA) provided for regulated futures trading in grain, allowed the Secretary of Agriculture to designate “contract markets,” and imposed a tax on futures trading not conducted on a designated market.⁵¹ The Court struck down the FTA as an unconstitutional exercise of federal taxing power.⁵²

Congress responded the following year by enacting the Grain Futures Act (GFA) under the authority of the interstate commerce clause.⁵³ It banned all off-exchange futures trading and

⁴³ COFFEE at 13 (stating that the “line between securities markets and the other capital markets sometimes becomes uncertain and clearly has shifted over recent years”).

⁴⁴ See Dennis W. Carlton, *Futures Markets: Their Purpose, Their History, Their Growth, Their Success and Failures*, THE JOURNAL OF FUTURES MARKETS, 237, 252 (1984).

⁴⁵ *Id.*

⁴⁶ CFTC, History of the CFTC, US Futures Trading and Regulation Before the Creation of the CFTC, available at http://www.cftc.gov/About/HistoryoftheCFTC/history_precftc.

⁴⁷ CFTC, Ask CFTC, The Economic Purpose of Futures Contracts, available at <http://www.cftc.gov/ConsumerProtection/EducationCenter/economicpurpose>.

⁴⁸ John Baffes, Senior Agriculture Economist, *Commodity Futures Exchanges: Historical Evolution and New Realities*, THE WORLD BANK (July 2011).

⁴⁹ RONALD H. FILLER AND JERRY W. MARKHAM, REGULATION OF DERIVATIVE FINANCIAL INSTRUMENTS (SWAPS, OPTIONS, AND FUTURES) 32 (West Academic 2014).

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² See *Hill v. Wallace*, 259 U.S. 44 (1921).

⁵³ The GFA was the predecessor to the Commodity Exchange Act (CEA).

directed a new agency, the Grain Futures Administration, to enforce the Act.⁵⁴ The Agency implemented a controversial large trader reporting system, which became subject to a string of suspensions and reinstatements.⁵⁵ Under the GFA, another agency, the Grain Futures Commission, which was made up of the Secretary of Agriculture, the Secretary of Commerce, and the Attorney General, was given authority to suspend or revoke contract market designation.⁵⁶ The Act required contract markets to keep records of certain transactions for three years, prevent the dissemination of misleading prices, and adopt rules permitting the admission of members as representatives of the exchange.⁵⁷

In 1936, the Commodity Exchange Act (CEA) extended the scope of regulatory authority to a list of designated agricultural “commodities,” replacing previous statutory references to “grain” in the GFA.⁵⁸ The Agency, now dubbed the Commodity Exchange Commission, was permitted to establish position limits, prohibit fictitious and fraudulent transactions, and implement other requirements, like the segregation of customer funds.⁵⁹

The Commodity Futures Trading Commission Act of 1974 created the CFTC and granted the independent federal agency even broader authority to regulate futures trading in all commodities.⁶⁰ The CFTC is permitted to regulate futures in the interest of preventing fraud, abusive practices, and manipulation in the derivatives market.⁶¹ Later, in 1981, the Commission permitted the registration of the National Futures Association (NFA) as a self-regulatory futures association.⁶² The NFA oversees registration of firms and individuals required to register under the CEA.⁶³

d. Regulating Derivatives: The SEC and CFTC

The CFTC regulates the trading of futures contracts and options on futures contract—the CFTC enjoys exclusive jurisdiction over products that are both a security and a futures product.⁶⁴ While securities typically arise from capital formation and aggregation, futures are meant to provide a means of hedging speculation, and price revelation without the transfer of capital.⁶⁵

⁵⁴ CFTC, History of the CFTC, US Futures Trading and Regulation Before the Creation of the CFTC, available at http://www.cftc.gov/About/HistoryoftheCFTC/history_precftc.

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ 7 U.S.C.S. § 1 et seq.

⁵⁹ CFTC, History of the CFTC, US Futures Trading and Regulation Before the Creation of the CFTC, available at http://www.cftc.gov/About/HistoryoftheCFTC/history_precftc.

⁶⁰ *Id.*

⁶¹ 7 U.S.C. § 1 et seq.

⁶² See NFA, Registration and Membership, available at <https://www.nfa.futures.org/registration-membership/index.html>.

⁶³ Registration for firms includes registering as: futures commissions merchants (FCMs), commodity pool operators (CPOs), commodity trading advisors (CTAs), and introducing brokers (IBs). Registration for individuals includes: associated persons (APs), floor brokers (FBs), floor traders (FTs), and principals. *Id.*

⁶⁴ *Chicago Mercantile Exchange v. SEC*, 883 F.2d (7th Cir. 1989) (stating that “the Commission shall have exclusive jurisdiction with respect to... transactions involving... contracts of sale (and options on such contracts) for future delivery of a group or index of securities (or any interest therein or based upon the value thereof).” 7 U.S.C. § 2a(ii).

⁶⁵ *Id.* (“So one could think of the distinction between the jurisdiction of the SEC and the CFTC as the difference between regulating capital formation and regulating hedging.”).

The SEC regulates the trading of securities and options on securities.⁶⁶ The SEC was created by the Securities Exchange Act of 1934 (Exchange Act), which granted it the authority to regulate the interstate sale of “securities” to prevent fraud and protect investors.⁶⁷ It mandates a system of ongoing disclosure and registration requirements.⁶⁸

The definition of a “security” under Section 2(a)(1) of the Securities Act and Section 3(a)(1) of the Exchange Act is broad and includes those things typically known as a security and also “investment contracts.”⁶⁹ The landmark case *SEC v. Howey* defined an “investment contract” in flexible terms to amount to an investment of money in a common enterprise with a reasonable expectation of profits derived primarily from the efforts of others.⁷⁰ The SEC retains sole jurisdiction over products that constitute a futures product and an option on a security.⁷¹

e. Hybrid Products and Jurisdictional Battles

Electronic trading and advanced financial engineering spawned a wave of new instruments that instilled discord between the CFTC and the SEC.⁷² Both agencies asserted jurisdiction over new “hybrid” instruments that shared the qualities of both commodity futures and options contracts.⁷³ The CEA provided the industry with little guidance, as it simply states that its terms are not applicable to contracts for “deferred delivery.”⁷⁴ The courts were left to distinguish between futures contracts and those for deferred delivery.⁷⁵

In a seminal case, the Seventh Circuit was called to determine whether the SEC or the CFTC possessed jurisdiction over products known as index participations (IPs)—contracts of indefinite duration based on the value of a basket of securities.⁷⁶ The SEC argued that IPs carried many of the same characteristic of stock—negotiability, the ability to receive dividends, the potential to appreciate in value, and the ability to be hypothecated.⁷⁷ The SEC asserted that these products were not “futures” because they lacked the elements of “futures”—that the value is set in the future—and “bilateral obligation”—that the contract is executory on both sides until expiration or settlement.⁷⁸ When it comes to contracts involving indexes, it is now settled that the SEC will have jurisdiction over narrow-based indexes, instruments based on the performance of

⁶⁶ *Id.*

⁶⁷ 15 U.S.C. § 78d.

⁶⁸ See *infra* Part IV(c) (discussing the requirements of securities registration).

⁶⁹ See *SEC v. Howey Co.*, 328 U.S. 293 (1946) (describing the elements of an “investment contract”).

⁷⁰ *Id.*

⁷¹ “[T]he [CFTC] shall have no jurisdiction to designate a board of trade as a contract market for any transaction whereby any party to such transaction acquires any put, call, or other option on one or more securities...including any group or index of such securities, or any interest therein or based on the value thereof.” 7 U.S.C. § 2a(i).

⁷² RONALD H. FILLER AND JERRY W. MARKHAM, REGULATION OF DERIVATIVE FINANCIAL INSTRUMENTS (SWAPS, OPTIONS, AND FUTURES) 267 (West Academic 2014).

⁷³ *Id.* at 251.

⁷⁴ *Id.*

⁷⁵ See e.g., *Chicago Mercantile Exchange v. SEC*, 883 F.2d (7th Cir. 1989).

⁷⁶ *Id.*

⁷⁷ The only attribute of stock that was missing was voting rights, which the SEC viewed as “unimportant.” *Id.*

⁷⁸ *Id.*

a few stocks, and the CFTC will have jurisdiction over broad-based indexes, indexes based on fifteen or more stocks.⁷⁹

f. Continuing the Cycle: The Financial Crisis and Dodd-Frank

The effectiveness of the America's bifurcated regulatory approach was questioned after regulation failed to prevent the Financial Crisis of 2008.⁸⁰ Instead of maintaining efforts to streamline financial regulation in the United States, Congress responded to the Crisis with the 2,300-page legislation known as the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank).⁸¹ The Act perpetuated the cycle of onerous, unworkable regulation, further impeding the development of a coherent and reasoned approach towards financial regulation.

Dodd-Frank created additional complications in the muddled lines of regulatory oversight over financial transactions. It added two additional financial regulators and called for the regulation of swaps, which were believed to be a contributor to the economic meltdown.⁸² It applied the regulatory regime that ETDs were historically subject to—mandated clearing and trading on a federally-registered exchange—to swap transactions. It granted the SEC jurisdiction over “security-based swaps” and it gave the CFTC oversight over “swaps” not based on securities.⁸³ The statute required the agencies to work together in regulating “mixed” swaps; however, it did not require that the agencies agree in their approaches.⁸⁴

With the goal of increasing transparency in the swap market, the Act added Section 5h to the CEA, which requires platforms for trading and processing swaps, Swap Execution Facilities (SEFs), to register with the CFTC, subject to limited exceptions.⁸⁵ SEFs are subject to compliance, on an initial and ongoing basis, with fifteen “Core Principles” established by the CFTC.⁸⁶ The Core Principles applicable to SEFs discuss a need for compliance mechanisms, monitoring, financial resources, recordkeeping and disclosure, and a demonstration that the

⁷⁹ FILLER at 62.

⁸⁰ *Id.*

⁸¹ Dodd-Frank, Pub. L. No. 111-203, § 721, 124 Stat. 1376 (2010) (codified as amended at 7 U.S.C. § 2(a)(1) (2013)).

⁸² *Id.*

⁸³ *Id.*

⁸⁴ The Commissions define a “mixed swap” as a contract that is a security-based swap and based on either: (1) an underlying reference other than a single security or narrow-based security index, such as an interest rate or other monetary rate, currency, commodity, etc.; or (2) the occurrence of an event associated with a potential financial, economic, or commercial consequence other than an event relating to an issuer of a security or the issuers in a narrow-based security index. *Id.*

⁸⁵ Section 5h(a)(1) of the Act forbids any person from operating “a facility for the trading or processing of swaps unless the facility is registered as a swap execution facility or as a designated contract market....” 7U.S.C. §7b-3(a)(1).

⁸⁶ 7 U.S.C. 7b-3 and Part 37 of the CFTC’s regulations. Core Principles obligations resulted from the CFTC’s “principles-based” approach, stating common market standards and goals that market participants must address in their operations. See

swaps offered for trading are not readily susceptible to manipulation.⁸⁷ The Commission has provided guidance on best practices in complying with the Core Principles.⁸⁸

Dodd-Frank also mandated that swaps be cleared through a registered clearing facility.⁸⁹ Clearing of derivatives is done through derivatives clearing organizations (DCOs). DCOs are similarly subject to a list of Core Principles.⁹⁰ There are seventeen Principles applicable to DCOs, which include the requirement of adequate risk management procedures, efficient and fair default rules, protection of participant funds, publication of operating procedures, participation in international-sharing agreements, and a “well-founded legal framework for the activities of the DCO.”⁹¹

III. A PRIMER ON CRYPTOCURRENCY

*Systems are organic, living creatures: if people stop working on them and improving them, they die.*⁹²

a. Blockchain Systems

A paper titled “Bitcoin: A Peer-to-Peer Electronic Cash System” emerged from the ruins of the Financial Crisis.⁹³ The author, going by the name Satoshi Nakamoto, introduced the concept of a “peer-to-peer” (P2P) system of payment bypassing intermediaries and preventing the double spending issue.⁹⁴ Blockchain systems, with their seemingly endless applications, have presented unique opportunities in the marketplace and allowed for the development of complex assets based on protocol embedded in code—just as the Internet emerged as a medium for information exchange, blockchain technology provides an enhanced medium for value exchange.⁹⁵

A blockchain is a type of distributed ledger technology (DLT) that provides for an immutable database that records and preserves transaction information.⁹⁶ “Blocks” correspond to transactions and are connected in a chronological manner using a cryptographic hash to form a

⁸⁷ 7 U.S.C. 7b-3 and Part 37 of the CFTC’s regulations.

⁸⁸ Part 37 of the CFTC’s regulations. Appendix A to Part 37 includes Form SEF with registration instructions and required documentation. Appendix B to Part 37 provides guidance and acceptable practices in complying with the Core Principles.

⁸⁹ A “clearing house” stands in between the parties to a transaction, acting as the buyer to all sellers and the seller to all buyers. Trading occurs in the contract, not in the commodity. The counterparty risk that is present in strictly bilateral transactions is transferred to the clearing house instead of either of the transacting parties. A clearing house will typically set a margin to protect their interests. *See* CFTC, Ask CFTC, The Economic Purpose of Futures Contracts, available at <http://www.cftc.gov/ConsumerProtection/EducationCenter/economicpurpose>.

⁹⁰ 7 U.S.C. § 7a-1 and Part 39 of the CFTC’s regulations.

⁹¹ *Id.*

⁹² STEVE LEVY, HACKERS: HEROES OF THE COMPUTER REVOLUTION 101 (O’Reilly 2010).

⁹³ Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System* 1 (2008).

⁹⁴ *Id.*

⁹⁵ Valerie Szczepanik, Gen. Att’y, SEC, Panel at SEC FinTech Forum in Washington, D.C. (Nov. 14, 2016).

⁹⁶ European Securities and Markets Authority, *The Distributed Ledger Technology Applied to Securities Markets* 8 (Feb. 6, 2016), https://www.esma.europa.eu/sites/default/files/library/2016-773_dp_dlt_0.pdf.

perpetual “chain” of transparency.⁹⁷ Distributed ledgers not only provide a uniform data depository, but they can also set the rules that govern the transactions themselves.⁹⁸ This technology poses as a valuable tool, especially in the derivatives space, for recordkeeping, simultaneous execution and settlement, and the collection of margin and collateral.

Blockchains use cryptography and consensus mechanism to operate.⁹⁹ Blockchains can be public, where anyone with the right hardware and software can access the network, or private, where permission is required for access.¹⁰⁰ The bitcoin blockchain system utilizes a network of computers, known as miners, who work on a reward-based system to confirm transactions and add blocks to the chain.¹⁰¹ Another feature of blockchains, which distinguishes blockchain assets from other asset infrastructures, is the ability to “fork” a blockchain, where a chain is broken off and separated from the original chain to now operate under an altered set of rules.¹⁰² Bitcoin forks have produced other bitcoins variations, like bitcoin cash, which purports to be an improved means of exchange—to some, bitcoin cash “is the real bitcoin.”¹⁰³

b. Cryptography and Public/Private Keys

*Cryptographic currencies are going to be a mainstay of our financial future. You cannot uninvent this technology. You cannot turn this omelette back into eggs.*¹⁰⁴

Some affix the term “crypto” with a negative connotation, as it seems to connote a tone of dark secrecy—the kind that the industry has been trying to shed since the highly-publicized

⁹⁷ See generally John Edward Silva, *An Overview of Cryptographic Hash Functions and Their Use*, SANS Institute (Jan. 15, 2003), available at <https://www.sans.org/reading-room/whitepapers/vpns/overview-cryptographic-hash-functions-879> (discussing the similarities and differences between cryptography and hash functions).

⁹⁸ See Finextra, *Banking on the Blockchain* 14 (Jan. 2016) (stating that the “transformational opportunity” created by blockchains is the fact that “we can now attach behavior to money—which opens the gate for new capital market instruments”).

⁹⁹ See CHRIS BURNISKE & JACK TATAR, *CRYPTOASSETS: THE INNOVATIVE INVESTOR’S GUIDE TO BITCOIN AND BEYOND* 18 (Oct. 19, 2017) (describing consensus mechanisms as the process through which code establishes a means to agreeing to the validity of transactions).

¹⁰⁰ *Id.*

¹⁰¹ *Id.* at 15. The confirmation efforts of miners prevent double spending, an issue that persists in our financial world where funds are recorded on the ledgers of multiple entities—this is known as proof-of-work. Other blockchain systems include proof-of-stake, proof-of-service, proof-of-existence, proof-of-burn, proof-of-elapsed-time and proof-of-capacity. *Id.* at 19. See also Peter Van Valkenburg, *Framework for Securities Regulation of Cryptocurrencies*, COIN CENTER, 13–16 (Jan. 2016) (examining the different consensus methods and discussing how they can impact interpretation under securities laws). “Well functioning proof-of-work systems generally indicate that users do not rely on the efforts of any particular miner to provide her profits... Proof-of-stakesystems may be less robust at distributing trust and avoiding an outcome where users rely on a single third party for their profits.” *Id.* at 50–51.

¹⁰² Peter Van Valkenburg at 5–6 (examining blockchain “forks,” which mean “that for some period there exist two alternative versions of the transaction history”). There are “hard” forks, which share the same transaction history as present in the original cryptocurrency, and “soft” forks, where consensus rules are changed such that fewer blocks will be recognized as valid. *Id.* at 14.

¹⁰³ See *Bitcoin Cash is Bitcoin*, BITCOIN.COM (Oct. 16, 2017) (discussing the development of bitcoin cash and various forks off the bitcoin blockchain).

¹⁰⁴ ANDREAS M. ANTONOPOULOS, *THE INTERNET OF MONEY*, Vol. 7–8 (March 20, 2017) (describing bitcoin as a programmable “mathematical currency”).

take down of Silk Road, the online marketplace that offered drugs and other illicit services in exchange for bitcoin.¹⁰⁵ The term “cryptocurrency” simply reflects the asset’s ability to be transferred and verified through complex mathematical code through a process known as cryptography.¹⁰⁶

Cryptography is an ancient practice that refers to the use of secret codes and ciphers to transmit data in a form that is only usable by the intended party.¹⁰⁷ Using a sort of cryptographic code to communicate has been a prevalent practice for centuries, used in wars and by governmental institutions, but the emergence of the internet brought cryptography to the public realm in a new way.¹⁰⁸ The great access to information provided by the internet left many concerned about its effects on privacy.¹⁰⁹ Cryptographers, such as Whit Diffie, sought to create code to protect information—this led to the development of “public key” cryptography.¹¹⁰

In cryptography, “encryption” refers to the act of converting a private message into an altered state or a “sort of mystery language.”¹¹¹ “Decryption” is the process of translating the message into readable material and this requires the “rules of transformation” or the secret “keys.”¹¹² In symmetric key encryption, the code to encrypt and decrypt is the same, whereas in public-key encryption there are two sets of “keys” that encrypt and decrypt: “public” keys can be shared among a group and authenticate the sender of a message; “private” keys are known only by their holder and unscramble the content of a message.¹¹³ The use of public-private keys confers authority to enter transactions and participants, or “nodes,” collaborate to reach a consensus about the validity of the transactions using cryptographic puzzles, thus maintaining the ledger’s integrity.¹¹⁴

Computer technology allowed for the development of advance encryption languages, utilizing mathematical and digital components to create a “digital” key, a string of numbers that would tell a system how to interpret the message.¹¹⁵ The revolution of virtual currencies exists in

¹⁰⁵BURNISKE at 33.

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ See generally STEVEN LEVY, CRYPTO: HOW THE CODE REBELS BEAT THE GOVERNMENT, SAVING PRIVACY IN THE DIGITAL AGE (Penguin Books 2001) (describing the developments of cryptography in the 1970s and the surrounding public and private controversy).

¹⁰⁹ *Id.* at 1 (“We think we’re whispering, but we’re really broadcasting”).

¹¹⁰ *Id.* at 3–6.

¹¹¹ *Id.* at 5.

¹¹² *Id.* at 6.

¹¹³ *Id.* at 356 (discussing that public keys can also be used to verify digital signatures and widely distributed with no compromise in security, while private keys must be closely held and can be used to “sign” messages to verify that the holder actually sent them).

¹¹⁴ “Mining,” a variation of this used by cryptocurrencies, is the process by networks of computers expounding resources validate transactions by finding the cryptographic key. European Securities and Markets Authority, *The Distributed Ledger Technology Applied to Securities Markets* 8 (Feb. 6, 2016), available at https://www.esma.europa.eu/sites/default/files/library/2016-773_dp_dlt_0.pdf.

¹¹⁵ LEVY at 11.

the multi-signature (multi-sig) capabilities of digital keys—an electronic coin is defined as “a chain of digital signatures.”¹¹⁶

c. Distinguishing Cryptocurrencies, Crypto commodities, and Cryptotokens

The terms “cryptocurrency” and “virtual currency” may be inherently misleading as some of these new products function like a currency, while others bear no resemblance to actual currency.¹¹⁷ In addition to currency, these instruments can serve as the equivalent to shares in a company, function solely as a tracking mechanism, operate as a consumable commodity, represent a pre-sale to access to software, or operate as a mix of existing notions of financial instruments.¹¹⁸ The emergence of complex blockchain assets places special importance on the defining qualities of such instruments, as those attributes will dictate the proper jurisdiction of regulatory authority.¹¹⁹

i. Cryptocurrencies

*Bitcoin is the internet of money. Currency is only the first application. At its core, bitcoin is a revolutionary technology that will change the world forever.*¹²⁰

A currency functions as a means of exchange, store of value, and unit of account—cryptocurrencies that operate as currencies include bitcoin, litecoin, ripple, dogecoin, dash, monero, and zcash.¹²¹ While bitcoin shares some of the characteristics of currency, that is only one application it can be used for—it’s more than a currency, it’s a network, a technology, and a platform that can be built upon and utilized for a multitude of functions, growing more valuable as more participants use it.¹²² Additionally, bitcoin serves different purposes for different individuals—recent research reveals that approximately two-thirds of bitcoin is held as a store of value, whereas only one-third is used as a means of exchange.¹²³

ii. Crypto commodities

The term “commodity” typically refers to physical raw materials, like oil, wheat, or gold.¹²⁴ Precious metals like gold or silver serve many of the same functions as money: they are

¹¹⁶ Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System* 2 (2008). See also Ben Davenport, *What is Multi-Sig, and What Can It Do?*, COIN CENTER (Jan. 1, 2015) (describing multi-sig as a means of securely validating transactions by requiring multiple parties to sign off on transactions with their digital signature), available at <https://coincenter.org/entry/what-is-multi-sig-and-what-can-it-do>.

¹¹⁷ See CHRIS BURNISKE & JACK TATAR, CRYPTOASSETS: THE INNOVATIVE INVESTOR’S GUIDE TO BITCOIN AND BEYOND (Oct. 19, 2017) (suggesting that “cryptoassets” provides a more fitting description of the class of products, which vary significantly in their purpose, use, and design).

¹¹⁸ *Id.* at 32.

¹¹⁹ See *Chicago Mercantile Exchange v. Securities & Exchange Commission*, 883 F.2d 537 (7th Cir. 1989).

¹²⁰ ANDREAS M. ANTONOPOULOS, *THE INTERNET OF MONEY*, Vol. 1 (March 20, 2017).

¹²¹ BURNISKE at 38–50.

¹²² ANTONOPOULOS at 109 (“Bitcoin isn’t what you think it is. It’s a platform. It’s not a payment network. It’s not a currency. It’s not a banking system. It’s a platform that guarantees certain trust functions.”).

¹²³ Jeff John Roberts and Nicolas Rapp, *Nearly 4 Million Bitcoins Lost Forever, New Study Says*, FORTUNE (Nov. 25, 2017), available at <http://fortune.com/2017/11/25/lost-bitcoins/>.

¹²⁴ BURNISKE at 32.

scarce, easy to transport, easy to divide, and universally valued for aesthetic purposes.¹²⁵ Despite these functions, precious metals are legally distinct from money, accounting for their consumptive functions separate from expression of value.¹²⁶

Similarly, use cases for the technology that underlies virtual currencies extends beyond just currency applications.¹²⁷ Like precious metals, virtual currencies are often a “non-yielding” asset, meaning they do not pay dividends like stocks.¹²⁸ Further, just as commodities like wheat can suffer from drought or other external factors creating fluctuations in production, virtual currencies can be lost, destroyed, or stolen.¹²⁹ Contrastingly, however, virtual currencies diverge from precious metals and agricultural commodities in that they are intangible.¹³⁰

Cryptocommodities take into account the digitalization of our modern world—things like storage and bandwidth similarly equate to the raw materials essential for online operations.¹³¹ Another so-called cryptocurrency, ether, native to the Ethereum network, fuels a decentralized network upon which “smart contracts” can be programmed.¹³² Ethereum developed as a decentralized computer network upon which an endless number of decentralized applications (dApps) can be built on.¹³³

iii. Cryptotokens and ICOs

The onset of the scalable Ethereum network provided the opportunity for the development of tokens on Ethereum’s public blockchain.¹³⁴ Cryptotokens represent “finished-product” digital goods and services.¹³⁵ Initial coin offerings (ICOs) involve the first distribution of a token. While ICOs may involve other cryptoassets, they typically assert to be distributing a token that represents a type of consumable interest in an infrastructure or network. ICOs have become widely popular and, if utilized appropriately, they allow businesses to forgo the lengthy and costly process of conducting an initial public offering (IPO).¹³⁶ Instead of issuing shares, investors in an ICO receive a token or virtual coin in exchange for their investment. This

¹²⁵ ANTONOPOULOS at 13.

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ See LabCFTC Release (PR 7631-17), “A CFTC Primer on Virtual Currencies,” 7 (Oct. 17, 2017) (describing the use cases of virtual currencies and how, despite their similarities, they might be more fungible, divisible, and portable than precious metals).

¹²⁹ See *supra* note 117.

¹³⁰ See Peter Van Valkenburg, *Framework for Securities Regulation of Cryptocurrencies*, COIN CENTER, 1–2 (Jan. 2016).

¹³¹ BURNISKE at 32.

¹³² *Id.* at 52 (describing “smart contracts” as “conditional transactions” based on logic written into code).

¹³³ *Id.* at 51.

¹³⁴ *Id.* at 58–59.

¹³⁵ *Id.* at 32.

¹³⁶ ICOs have raised over \$3 billion this year. Eugene Kim, *Crypto start-ups are trying to get their house in order ahead of a possible SEC crackdown*, CNBC (Oct. 12, 2017) (discussing how some companies have registered their token sales with the SEC and how others have attempted to utilize exemptions from registration by offering only to accredited investors and not retail investors), available at <https://www.cnbc.com/2017/10/12/crypto-start-ups-turn-to-safts-for-icos-raising-more-than-350m.html>.

token can then be used to access the issuer's platform or software, to otherwise participate in the project, or it can be traded on a virtual currency exchange.

IV. REGULATORS ASSERT JURISDICTION OVER CRYPTOCURRENCIES

States, federal agencies, and courts have fashioned their own understandings of bitcoin and virtual currencies. Some operate under a “no harm” approach, reconciling blockchain innovations with the rise of the internet, while others promote more cautionary measures.¹³⁷

a. FinCEN

Federal regulators and courts often cite the broad definition of “virtual currencies” provided by the Financial Crimes Enforcement Network (FinCEN) in 2013, which defined them as “digital representations of value” that function as “a medium of exchange, a unit of account, and/or a store of value.”¹³⁸ FinCEN distinguished virtual currencies from “real” currencies “which are the coin and paper money of the United States or another country that are designated as a legal tender, circulate, and are customarily used and accepted as a medium of exchange in the country of issuance.”¹³⁹

b. The IRS: “Property”

According to the Internal Revenue Service (IRS), virtual currencies are properly classified as “property.”¹⁴⁰ The IRS defined “convertible virtual currency” (CVC) as those that have “an equivalent value in real currency, or that acts as a substitute for real currency.”¹⁴¹ The IRS guidance provides that, as property, gains and losses are treated as capital gains and capital losses for tax purposes.¹⁴² Concerned about suspected tax evasion, the IRS summoned Coinbase, a virtual currency exchange, to disclose customer data and transaction records.¹⁴³ According to an affidavit filed in connection with the action, only 802 individuals reported transactions related to bitcoin in 2015.¹⁴⁴

c. The SEC: “Security”

¹³⁷ See J.C. Giancarlo, Comm’r, CFTC, Address to the DTCC (2016) (comparing blockchain technology to the innovation of the internet); U.S. Financial Stability and Oversight Council (FSOC), Annual Report (2016) (identifying blockchain technology as a potential risk to market stability, urging regulators to remain vigilant in monitoring blockchain developments, and emphasizing the need for coordination among regulatory bodies).

¹³⁸ Financial Crimes Enforcement Network, Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies, FIN-2013-G001 (March 18, 2013).

¹³⁹ *Id.*

¹⁴⁰ IRS Virtual Currency Guidance: Virtual Currency Is Treated As Property for U.S. Federal Tax Purposes; General Rules for Property Transactions Apply, IR-2014-36 (March 25, 2014).

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ United States v. Coinbase, Inc., Case No.17-cv-01431-JSC (N.D. Cal. July 18, 2017).

¹⁴⁴ This number is down from 2014 in which 893 individuals reported a transaction on Form 8949 using a property description likely related to bitcoin. See Jeff John Roberts, *Only 802 People Told the IRS About Bitcoin—Lawsuit*, FORTUNE (March 19, 2017), available at <http://fortune.com/2017/03/19/irs-bitcoin-lawsuit/>.

*ICOs represent the most pervasive, open and notorious violation of federal securities laws since the Code of Hammurabi.*¹⁴⁵

The SEC considers virtual currencies investments to constitute investments of “money” under federal securities laws.¹⁴⁶ Cryptocurrencies may be “securities” themselves, such that public offerings are subject to the registration requirements under federal securities laws.¹⁴⁷ The SEC formed its DLT Working Group with the goal of analyzing how existing rules address the challenges presented by the technology.¹⁴⁸

On July 25, 2017, the SEC released investor guidance on ICOs, where it warned that the “innovative technology behind these virtual transactions does not exempt securities offerings and trading platforms from the regulatory frameworks designed to protect investors and the integrity of the market.”¹⁴⁹ The ICO guidance came alongside the SEC’s Report of Investigation in which it purported that the tokens issued by a virtual organization, known as The DAO, were securities within the meaning of federal securities laws and the *Howey* test.¹⁵⁰ As such, the offering conducted by The DAO, which raised over \$150 million from April to May of 2016, should have been registered pursuant to Section 5 of the Securities Act or fall within one of the statutorily-prescribed exemptions.¹⁵¹

Token sales may also result in liability under the SEC’s broad antifraud authority provided by Section 10(b) and Rule 10b-5 of the Exchange Act, which apply to both registered and unregistered offerings and prohibit any manipulative or deceptive conduct in connection with the purchase or sale any of any security.¹⁵² Two months after the DAO Report, the SEC filed an action against a company that issued “memberships in a club” that supposedly invested in diamonds, even though no diamonds were ever acquired.¹⁵³ The SEC asserted that the sale was structured as to “skirt the registration requirements of the federal securities laws,” though the “memberships” possessed the hallmarks of securities transactions.¹⁵⁴

d. The CFTC: “Commodity”

¹⁴⁵ Nathaniel Popper, *Initial Coin Offerings Horrify a Former SEC Regulator*, NY TIMES (Nov. 26, 2017), available at https://www.nytimes.com/2017/11/26/business/initial-coin-offering-critic.html?_r=0.

¹⁴⁶ See SEC v. Shavers, 2013 WL 4028182 (E.D. Texas Aug. 6, 2013) (holding that the court had subject matter jurisdiction over the claims because bitcoin “can be used as money” and thus the bitcoin investments were investments of money in “securities” within the meaning of federal securities laws).

¹⁴⁷ See Securities Exchange Commission, Report of Investigation Pursuant to Section 21(a) of the Securities and Exchange Act of 1934: The DAO (July 25, 2017) (stating that the DAO tokens qualified as “securities” under the *Howey* test), available at <https://www.sec.gov/litigation/investreport/34-81207.pdf>.

¹⁴⁸ Mary Jo White, Comm’r Chair, SEC, Panel at SEC’s FinTech Forum (Nov. 14, 2016).

¹⁴⁹ Securities Exchange Commission, Investor Bulletin: Initial Coin Offerings (July 25, 2017), available at <https://www.investor.gov/additional-resources/news-alerts/alerts-bulletins/investor-bulletin-initial-coin-offerings>.

¹⁵⁰ *Id.*

¹⁵¹ *Id.* Violations of Section 5 not only subject the issuer of an unregistered, non-exempt security to liability under the Securities Act, but liability extends to “any person” who participates in the offer or sale. See e.g., SEC v. Softpoint, Inc., 958 F. Supp 846, 859-60 (S.D.N.Y. 1997) (stating that “[t]he prohibitions of Section 5 ... sweep[] broadly to encompass ‘any person’ who participates in the offer or sale of an unregistered, non-exempt security.”).

¹⁵² 17 CFR 240.10b-5.

¹⁵³ Complaint, Securities Exchange Commission v. RECoin Group Foundation, LLC et al., No. 17-5725 (S.D.N.Y. Sept. 29, 2017).

¹⁵⁴ *Id.*

The CFTC asserts bitcoin and other virtual currencies are “commodities” under the CEA.¹⁵⁵ Or they may be “securities” that transform into “commodities.”¹⁵⁶ The CFTC established LabCFTC to study cryptocurrencies and promote responsible innovation and informed legislation.¹⁵⁷ In October 2017, the LabCFTC released a primer on cryptocurrencies in attempt to promote “education, understanding, and regulatory clarity around emerging technologies,” facilitate “market-enhancing innovation,” and “guard against risks.”¹⁵⁸ It repeated the broad definition of “commodity” under the CEA, which captures virtual currencies.¹⁵⁹ Further, the primer stated that the CFTC’s jurisdiction is invoked where a virtual currencies are used “in a derivatives contract, or if there is fraud or manipulation involving a virtual currency traded in interstate commerce.”¹⁶⁰ It stated that there is no inconsistency between the SEC’s approach and the CFTC’s views.¹⁶¹

CFTC enforcement actions have focused on lack of registration and fraud. In 2015, the CFTC instituted proceedings against TeraExchange for fraud and failing to implement rules that prevent manipulative practices like wash trades.¹⁶² The exchange completed a pre-arranged virtual currency swap “to test the pipes.” The CFTC considered the transaction to constitute as a wash trade under the CEA because it served the trades canceled each other out.¹⁶³ Just recently, on September 21, 2017, the CFTC brought enforcement action under anti-fraud provisions of the

¹⁵⁵ In the Matter of Coinflip Inc., d/b/a Derivabit, and Francisco Riordan, CFTC Docket No. 15-29 (Sept. 17, 2015); In re TeraExchange LLC, CFTC Docket No. 15-33, 2015 WL (CFTC Sept. 24, 2015); CFTC, *A CFTC Primer on Virtual Currencies*, Lab CFTC (Oct. 17, 2017).

¹⁵⁶ Brian Quintenz, Comm’r, CFTC, Address to Georgetown University Law Center (Oct. 19, 2017) (stating that “[t]hey may start their life as a security from a capital-raising perspective but then at some point—maybe possibly quickly or even immediately—turn into a commodity”).

¹⁵⁷ CFTC, LabCFTC Overview, available at <http://www.cftc.gov/LabCFTC/Overview/index.htm>.

¹⁵⁸ See LabCFTC Release (PR 7631-17), “A CFTC Primer on Virtual Currencies” (Oct. 17, 2017).

¹⁵⁹ *Id.* at 11.

¹⁶⁰ *Id.* (discussing that “[b]eyond instances of fraud or manipulation, the CFTC generally does not oversee ‘spot’ or cash market exchanges and transactions involving virtual currencies that do not utilize margin, leverage, or financing”).

¹⁶¹ *Id.* at 14 (asserting that the CFTC “looks beyond form and considers the actual substance and purpose of an activity when applying the federal commodities laws and CFTC regulations”).

¹⁶² In re TeraExchange LLC, CFTC Docket No. 15-33, 2015 WL (CFTC Sept. 24, 2015). “A wash trade ‘is a transaction made without an intent to take a genuine, bona fide position in the market, such as a simultaneous purchase and sale designed to negate each other so that there is no change in financial position.’” *Id.* at 5 (quoting *Reddy v. CFTC*, 191 F.3d 109, 115 (2d Cir. 1999)).

¹⁶³ *Id.* at 3. “Market participants are prohibited from engaging in ‘wash trading’ and ‘prearranged trading’ in swaps under Section 4c(a) of the Act, which makes it unlawful to enter a transaction that ‘is, is of the character of, or is commonly known to the trade as, a ‘wash sale’ or ‘accommodation trade’ ... or is a fictitious sale or is used to cause any price to be reported, registered, or recorded that is not a true and bonafide price.” 7 U.S.C. § 6c(a)(2).

CEA¹⁶⁴ against a defendant who purportedly staged a hack in relation to his bitcoin business to further his Ponzi scheme.¹⁶⁵

e. LedgerX: “Fully Collateralized Cryptocurrency Derivatives”

With CFTC approval, LedgerX officially became the first federally-regulated bitcoin derivatives clearing and execution facility.¹⁶⁶ In granting this, the Commission acknowledged LedgerX’s compliance with its “Core Principles” through its fully-collateralized clearing model.¹⁶⁷ LedgerX co-founder and CEO, Paul Chou, emphasized the role of the CFTC in setting an example, globally, of what a “well-licensed clearinghouse and exchange based around digital currencies will look like.”¹⁶⁸

Trading on the platform is limited to institutional traders, or eligible contract participants (ECPs), including broker dealers, banks, futures commission merchants, qualified commodity pool operators, and qualified high net worth individuals.¹⁶⁹

Currently, the products offered are limited to put and call options and day-ahead swaps with bitcoin as the underlying asset. LedgerX’s license permits it to host other instruments based on cryptographic assets. According to Chou, there will be three to five “viable” cryptocurrencies that will candidates for trading on the exchange.¹⁷⁰ Each new product will entail an evaluation of the technology underlying the digital currency and require the exchange to “self-certify” that the instrument is in compliance.¹⁷¹ Tokens sold in ICOs will likely not be considered for trading on LedgerX.¹⁷²

¹⁶⁴ Section 6(c)(1) of the Act, 7 U.S.C. § 9(1) (2012), makes it unlawful for any person, directly or indirectly, to:

use or employ, or attempt to use or employ, in connection with any swap, or a contract of sale of any commodity in interstate commerce, or for future delivery on or subject to the rules of any registered entity, any manipulative or deceptive device or contrivance, in contravention of such rules and regulations as the Commission shall promulgate by not later than 1 year after [Dodd-Frank] . . .

¹⁶⁵ CFTC v. Gelfman Blueprint, Inc. and Nicolas Gelfman, Case 1:17-cv-07181 (S.D.N.Y. Sept. 21, 2017).

¹⁶⁶ CFTC, CFTC Grants DCO Registration to LedgerX LLC, Press Release (July 24, 2017) available at <http://www.cftc.gov/PressRoom/PressReleases/pr7592-17> (last visited Nov. 7, 2017).

¹⁶⁷ CFTC, Letter No. 17-35, RE: Request for Exemptive Relief for Certain Derivatives Clearing Organization Regulations (July 24, 2017).

¹⁶⁸ Michael del Castillo, *Start Your Hedging: LedgerX to Begin Trading Cryptocurrency Derivatives*, COINDESK (July 24, 2017) (quoting LedgerX co-founder and CEO Paul Chou), available at <https://www.coindesk.com/start-hedging-ledgerx-begin-trading-cryptocurrency-derivatives/> (last visited Nov. 7, 2017).

¹⁶⁹ *Id.*

¹⁷⁰ He compares these “viable” cryptocurrencies to G5 currencies that are deemed safe investments due to their relative stability. *Id.*

¹⁷¹ *Id.*

¹⁷² *Id.*

Other exchanges, like the Chicago Mercantile Exchange (CME), plan to follow in LedgerX’s footsteps by creating bitcoin futures contracts.¹⁷³ The contracts could be traded as early as December of 2017.¹⁷⁴ Similarly, the CME and several other entities began compiling indexes to track the price of various cryptocurrencies.¹⁷⁵

f. State Regulators

Some states, like Illinois, Kansas, and Texas, have explicitly excluded virtual currencies from the definition of “money.”¹⁷⁶ California describes them as “alternative currency.”¹⁷⁷ Many states consider virtual currency transactions to be “money transmissions” such that licensure is required.¹⁷⁸ Some states, such as Hawaii, have also organized focus groups to study virtual currencies and their proper status under the law.¹⁷⁹

g. International Landscape

International regulators have varied in their responses to cryptocurrencies, ranging from outright bans to no regulation at all.¹⁸⁰ On September 4, 2017, China moved to ban all ICOs—the

¹⁷³ CME Group, *CME Group Announces Launch of Bitcoin Futures*, News Release (Oct. 31, 2017), available at http://www.cmegroup.com/media-room/press-releases/2017/10/31/cme_group_announceslaunchofbitcoinfutures.html.

¹⁷⁴ *Id.*

¹⁷⁵ CME Group, *CME CF Bitcoin Reference Rate & CME CF Bitcoin Real Time Index*, available at <http://www.cmegroup.com/trading/cf-bitcoin-reference-rate.html>.

¹⁷⁶ See Illinois Department of Financial and Professional Regulation, *Digital Currency Regulatory Guidance*, (July 13, 2017) (stating digital currencies are not “money” under the Transmitters of Money Act and therefore “[a] person or entity engaged in the transmission of solely digital currencies” would not be required to obtain license); Kansas Office of the State Bank Commissioner, *Guidance Document MT 2014-01, Regulatory Treatment of Virtual Currencies Under the Kansas Money Transmitter Act*, (June 6, 2014) (advising that cryptocurrency is not considered “money” for the purposes of the Kansas Act); Jennifer Jensen, et al, *Sales and Use Taxes in a Digital Economy*, The Tax Adviser, (Jun. 1, 2015) (stating that the Nebraska Department of Revenue doesn’t consider the term “currency” to include bitcoin or other virtual currencies); Memo, Tx. Dep’t of Banking, *Regulatory Treatment of Virtual Currencies Under the Texas Money Services Act* (April 3, 2014) (stating that virtual currencies will not be treated as legal money in Texas); see also *Florida v. Espinoza*, F14-2023 (dismissing the charge of money laundering because virtual currencies are not “money” as defined by the state’s Money Laundering Act).

¹⁷⁷ Cal. AB-129 (the “Alternative Currencies Act”) (amending Cal. Corp. Code § 107 which previously stated that “[n]o corporation, social purpose corporation, association, or individual shall issue or put in circulation, as money, anything but the lawful money of the United States”).

¹⁷⁸ 23 NYCRR § 200 (New York’s “BitLicense”); H.B. 215, 2017 Leg., Reg. Sess. (Ala. 2017) § 8-7A-2(10) (Alabama’s Monetary Transmission Act); H.B. 7141, 2017 Leg., 2017 Jan. Reg. Sess. Gen. Assemb. (Conn. 2017); Ga. Code Ann. § 7-1-690(b)(1); 2017 North Carolina Laws S.L. 2017-102 (H.B. 229); H.B. 182, 2017 Gen. Assemb., Reg. Sess. (Vt. 2017); VA Code Ann. § 6.2-1900; Uniform Money Services Act. H.B. 1327, 63rd Leg., Reg. Sess. (Wash. 2013). But see H.B. 436, 2017 Leg., 165th Sess. (N.H. 2017) (exempting “persons who engage in the business of selling or issuing payment instruments or stored value solely in the form of convertible virtual currency or receive convertible virtual currency for transactions to another location” from the state’s money transmission laws).

¹⁷⁹ See H.B. 1481, 29th Leg., Reg. Sess. (Haw. 2017) (aiming to establish a working group “consisting of representation from the public and private sectors to examine, educate, and promote best practices for enabling blockchain technology to benefit local industries, residents, and the State of Hawaii”).

¹⁸⁰ Gibraltar, Isle of Man, Cayman Islands, and Mauritius have become havens for cryptocurrencies, while the United States, United Kingdom, European Union, Canada, and Australia have taken a more cautious approach. See Caroline Binham, *ICO regulation inconsistent as cryptocurrency bubble fears grow*, FINANCIAL TIMES (Nov. 24, 2017), available at

People's Bank of China (PBoC) called ICOs “illegal and disruptive to economic and financial stability.”¹⁸¹ The securities regulator of the Philippines announced that it would consider regulating virtual currency offerings as securities under the country's Securities Regulation Code (SRC).¹⁸² Contrastingly, the chief of South Korea's Financial Supervisory Service (FSS) stated that it has “no plans” to regulate cryptocurrency trading.¹⁸³

V. CRYPTOCURRENCY PUSHING REGULATORY BOUNDARIES

*Our legal system is premised on the assumption that the law is intended to be known or knowable, that law is in its nature public information.*¹⁸⁴

When it comes to cryptocurrencies, their proper treatment under the law is unclear and domestic regulators are inconsistent in their views.¹⁸⁵ This uncertainty frustrates attempts at discerning the appropriate agency of oversight, operates to stifle innovation, causing potentially profitable businesses to relocate, and prevents widespread adoption of the new asset class. The following sections describe the specific issues in current regulatory approaches to cryptocurrencies.

a. A Multitude of Regulators

Contrary to the assertion of the SEC that bitcoin operates largely unregulated, virtual currency developers and users face regulation from multiple entities.¹⁸⁶ These entities are also inconsistent in their views. On one hand, if cryptocurrencies are “commodities” under the CEA, markets contend with the “principles-based” approach utilized by the CFTC, which promotes general principles and allows for flexibility in attaining general regulatory goals.¹⁸⁷ On the other hand, if cryptocurrencies are “securities,” participants encounter the “prescriptive-based” approach of the SEC, which entails specific and lengthy rules aimed at prohibiting specific conduct.¹⁸⁸

<https://www.ft.com/content/32315636-cb01-11e7-ab18-7a9fb7d6163e?segmentid=acee4131-99c2-09d3-a635-873e61754ec6>.

¹⁸¹ Wolfie Zhao, *China's ICO Ban: A Full Translation of Regulator Remarks*, COINDESK (Sept. 5, 2017), available at <https://www.coindesk.com/chinas-ico-ban-a-full-translation-of-regulator-remarks/> (English translation); <http://www.circ.gov.cn/web/site0/tab6554/info4080736.htm> (original report).

¹⁸² Angelica Ballesteros, *Regulators Eye Wider Virtual Currency Use*, THE MANILA TIMES (Nov. 22, 2017), available at <http://www.manilatimes.net/regulators-eye-wider-virtual-currency-use/364344/>.

¹⁸³ Nam Hyun-woo, *FSS Won't Regulate Bitcoin Trading*, THE KOREA TIMES (Nov. 23, 2017) (stating that cryptocurrencies are not “legitimate currencies” and “supervision will come only after the legal recognition of digital tokens as a legitimate currency”).

¹⁸⁴ Stephen L. Pepper, *Counseling at the Limits of the Law: An Exercise in the Jurisprudent and Ethics of Lawyering*, 104 YALE L.J. 1545 (1995).

¹⁸⁵ See Alexander B. Lindgren, *Blockchain Regulation: Growing Pains of a Financial Revolution*, Orange County Lawyer, at 1 (Oct. 2017) (“The new and unusual nature of crypto-currencies have led to substantial confusion on how to treat them for regulatory purposes.”).

¹⁸⁶ Securities and Exchange Commission, Release No. 34-80206, Order Disapproving a Proposed Rule Change (March 10, 2017) (rejecting an ETF proposal on the basis that bitcoin is too unregulated).

¹⁸⁷ See RONALD H. FILLER AND JERRY W. MARKHAM, REGULATION OF DERIVATIVE FINANCIAL INSTRUMENTS (SWAPS, OPTIONS, AND FUTURES) 61–68 (West Academic 2014).

¹⁸⁸ *Id.* at 68 (describing how it was proposed that the SEC adopt a more principles-based regulatory approach like that of the CFTC).

While some tokens are not clearly “securities,” tokens serving as stock will likely be subject to the same laws and regulations as traditional securities.¹⁸⁹ However, in many instances, “tokens serve some cryptocurrency or functional use that is unregulated, such as prepayment for access to a product or service that is to be developed using funds raised in the ICO.”¹⁹⁰

b. “Actual Delivery”

*The lack of regulatory clarity in this area not only impedes the ability to interpret statutory provisions... but is also harmful to the further development of cryptocurrency markets and blockchain modalities in general...*¹⁹¹

In 2016, the CFTC brought proceedings against Bitfinex, a China-based cryptocurrency exchange, for engaging in illegal, off-exchange commodity transactions without registration in violation Sections 4(a) and 4d of the CEA.¹⁹² The exchange permitted the exchange of various cryptocurrencies to dollars and vice versa.¹⁹³ It offered a margin trading feature that allowed customers to engage in leveraged transactions.¹⁹⁴ In exchange for the loans, the borrowing customers paid fees and interest to the lending customers.¹⁹⁵

During the relevant period, Bitfinex held bitcoins purchased by the customer in an omnibus settlement wallet to which it owned, controlled, and held the “private keys” to.¹⁹⁶ When the borrowing customers paid back the loans, Bitfinex would release the funds.¹⁹⁷ The Commission asserted that Bitfinex did not “actually deliver” bitcoins purchased on a leveraged, margined, or financed basis within the meaning of Section 2(c)(2)(D)(ii)(III)(aa) of the CEA such that the transactions were not eligible for exemptive status.¹⁹⁸ Notably, some financing offerees were retail customers and not eligible contract participants (ECPs) or eligible commercial entities (ECEs) as defined by the CEA.¹⁹⁹ The CFTC imposed a \$75,000 fine on

¹⁸⁹ Melodie Lamarque, *The Blockchain Revolution: New Opportunities in Equity Markets*, Massachusetts Institute of Technology, 29 (June 8, 2016). See also Overstock Registration Statement (Form S-3), at 34 (Nov. 10, 2015) (hereinafter Overstock S-3) (describing how the shares will have the same rights, but be settled differently).

¹⁹⁰ Gibraltar Financial Services Commission, Statement on Initial Coin Offerings (Sept. 22, 2017), available at <http://www.gfsc.gi/news/statement-on-initial-coin-offerings-250>.

¹⁹¹ Steptoe & Johnson, LLP, Petition for Rulemaking Concerning the Requirement of “Actual Delivery” and the Transfer of Ownership under the Commodity Exchange Act in the Context of Cryptocurrency Markets Utilizing Blockchain for Executing Transactions (July 1, 2016).

¹⁹² In the Matter of BFNA Inc. d/b/a Bitfinex, CFTC Docket No. 16-19 (June 2, 2016).

¹⁹³ *Id.*

¹⁹⁴ *Id.* The transactions were financed by “Margin Funding Providers,” who could lend to the “Financing Recipient” on their own designated terms or at the “Flash Return Rate” set by the market. *Id.*

¹⁹⁵ *Id.*

¹⁹⁶ *Id.* (“The touchstone of CFTC’s allegations is Bitfinex’s retention—for over 28 days—of users’ bitcoins in addresses to which the users did not know the private keys.”).

¹⁹⁷ *Id.*

¹⁹⁸ *Id.*

¹⁹⁹ *Id.* However, in 2015, close to 90 percent of deposits and withdrawals from the exchange were done by corporate users. *Id.*

Bitfinex for its violations.²⁰⁰ In doing so, the Commission noted Bitfinex’s “significant” cooperation in the investigation.²⁰¹

In wake of the Bitfinex Order, the industry sought clarification from the CFTC as to what constitutes “actual delivery” under the CEA.²⁰² A D.C. law firm petitioned the CFTC for rulemaking guidance, citing that the discussion in Bitfinex was insufficient to adequately apprise the market of the standard when it comes to cryptocurrencies.²⁰³ The Petition stated that the CFTC’s distinction between public and private key wallets is unsupported by the statutory language.²⁰⁴ As of yet, the CFTC has failed to provide the requested guidance.

VI. SOLUTION: A UNIFIED AND FLEXIBLE REGULATORY FRAMEWORK

This article has addressed the shortcomings of regulators’ bifurcated approaches to regulating cryptocurrencies. Inconsistent approaches and arbitrary distinctions endanger the development of the nascent industry and forthcoming innovation. The following sections propose a comprehensive regulatory approach that is flexible, principle-based, and considers the intricacies unique to cryptocurrencies. This approach offers the malleability lacking in current structures. Further, the concluding section suggests that a joint regulatory committee would most effectively implement reform in the cryptocurrency industry.

a. Defining Cryptocurrencies: Revisiting Precedent

Current methods fail to take into account the principle that the law should be ascertainable and a reasonable response to perceived necessities of an efficient market.²⁰⁵ Arbitrary distinctions operate to confuse the basis of the law and the authority of regulators to the detriment of the market. By viewing cryptocurrencies as a new asset class that distorts traditional notions of financial products and rebirths the “creative” aspects of venture capital, regulators can provide the industry with much needed solace without silencing the market.²⁰⁶

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² Steptoe & Johnson, LLP, Petition for Rulemaking Concerning the Requirement of “Actual Delivery” and the Transfer of Ownership under the Commodity Exchange Act in the Context of Cryptocurrency Markets Utilizing Blockchain for Executing Transactions (July 1, 2016). “The transfer of an ownership interest in a commodity is an essential concept that the Commission has yet to publicly consider in the context of the blockchain environment.” *Id.* at 1–2.

²⁰³ *Id.* at 3.

²⁰⁴ *Id.* at 4.

²⁰⁵ See e.g., Stephen L. Pepper, *Counseling at the Limits of the Law: An Exercise in the Jurisprudent and Ethics of Lawyering*, 104 YALE L.J. 1545 (1995).

²⁰⁶ See William Mougayar, *There is Hope for Blockchain Regulation, Thanks to General Georges Doriot*, STARTUP MANAGEMENT (April 14, 2017), available at <http://startupmanagement.org/2017/04/14/there-is-hope-for-blockchain-regulation-thanks-to-general-georges-doriot/> (describing how regulators should acknowledge virtual currencies as a new asset class and how a “no harm” approach has benefitted the field by demonstrating that: (1) Crowdsourced funding via cryptocurrencies is a viable practice; (2) Cryptocurrency fund management is going to become a thing; and (3) Cryptocurrencies are not evil and are not for money launderers and scammers).

Regulators should avoid painting broad strokes when addressing cryptocurrencies. The products encompassed by the term “cryptocurrency” share certain similarities but also diverge greatly in purpose, use, and qualification under legal standards.²⁰⁷ Statements, like the one forwarded by the CFTC in *Coinflip*, attempt to provide certainty in a regulatory grey area;²⁰⁸ however, such expansive declarations run the risk of being over-inclusive and chilling on the market. Further, broad declarations face the potential to be quickly rendered untenable.²⁰⁹

Former CFTC Commissioner Bart Chilton argued that virtual currencies do not fall under the definition of a security or a commodity.²¹⁰ He asserted that they do not exhibit the typical characteristics of a company’s stock—there’s no board of directors, business headquarters, employees, or company assets.²¹¹ Virtual currencies do not function like typical commodities in that there is no underlying physical asset that is inherently valuable like oil, gold, or corn. The value of virtual currencies is simply determined by what others are willing to pay.²¹²

b. Clarifying “Actual Delivery”

Physical delivery of an asset that underlies a contract distinguishes forward contracts from other regulated derivatives such that the CFTC should provide clarity and guidance as to what constitutes delivery of virtual currency products.²¹³ Bitcoin represents a system of absolute ownership where control of the keys dictates possession.²¹⁴ The application of digital signatures grants key holders complete authority over their financial transactions.²¹⁵ The industry would benefit from clarification as to this element from regulators, clarity that was lacking in the *Bitfinex Order*.²¹⁶

c. Exemption from Clearing and Registration Requirements

²⁰⁷ See *supra* Part 3(c) (addressing the multitude of use cases for cryptocurrencies).

²⁰⁸ In the Matter of Coinflip Inc., d/b/a Derivabit, and Francisco Riordan, CFTC Docket No. 15-29 (Sept. 17, 2015) (stating that bitcoin and other virtual currencies are “commodities” under the CEA). See also *supra* note 145 (providing the quote from former SEC Commissioner, who broadly asserted that tokens resulting from ICOs are subject to federal securities laws without considering the diverging characteristics of such tokens).

²⁰⁹ Cryptocurrencies are constantly subject to modification. For example, forks of bitcoin’s blockchain create a new consensus protocol that diverges from the original chain. Bitcoin forks have produced other bitcoins, like bitcoin cash, which purports to be an improved means of exchange. To some, bitcoin cash “is the real bitcoin.” See *Bitcoin Cash is Bitcoin*, BITCOIN.COM (Oct. 16, 2017) (discussing the development of bitcoin cash and various forks off the bitcoin blockchain).

²¹⁰ Bart Chilton, *It's time to address bitcoin's big blind spot*, CNBC (Sept. 21, 2017), available at <https://www.cnbc.com/2017/09/21/its-time-to-address-bitcoins-big-blind-spot-bart-chilton-commentary.html> (last visited Nov. 15, 2017).

²¹¹ *Id.*

²¹² *Id.*

²¹³ See e.g., CFTC v. Zelener, 373 F.3d 861 (7th Cir. 2004) (distinguishing between futures and forwards).

²¹⁴ ANDREAS M. ANTONOPOULOS, *THE INTERNET OF MONEY*, Vol. 18 (March 20, 2017) (“We have an expression in the United States, which is “possession is nine-tenths of the law.” In bitcoin, possession is ten-tenths of the law.”).

²¹⁵ *Id.* at 19.

²¹⁶ See In the Matter of BFNA Inc. d/b/a Bitfinex, CFTC Docket No. 16-19 (June 2, 2016) (finding that the control of the keys was important in determining actual delivery, while avoiding the question of actual delivery in the context of forward contracts).

Registration provides operational certainty to issuers, promoting disclosure and marketplace confidence. Registration, however, is costly, time consuming, and complex. As discussed above, registration also subjects entities to a list of ongoing compliance responsibilities.²¹⁷ Overregulation can prevent business formation or force profitable local businesses to relocate.

The current regulatory environment gives large, established exchanges, such as the CME, an operational advantage such that they are able to serve segments of the market functionally closed off to less-established competitors. In order to offer cryptocurrency derivatives, the CME simply had to file an amendment with the CFTC.²¹⁸ LedgerX was fortunate to complete a successful round of funding that enabled it to comply with the burdensome registration process. For most new cryptocurrency exchanges, registration costs are insurmountable.

As the market for virtual currencies grows, more businesses will consider entering the space, but some will be stalled due to stringent, unaccommodating regulatory frameworks. LedgerX exemplifies how the technology behind the assets provides for a sort of self-governance that, in some cases, provides for the attainment of goals similar to those of regulators.

d. Self-Regulation and Substituted Compliance

*What happens when, for the first time ever, there is a system that can evaluate rules without human intervention and be trusted without having to put trust in any single human? In bitcoin, we call this the removal of counterparty risk.*²¹⁹

The crypto industry is plagued by the misconceptions of lawmakers and regulators who are trying to regulate a product before actually understanding what it is and how it operates.²²⁰ Similarly, investors are throwing money at projects before truly knowing if they are viable or how they operate. On one hand, regulators want to protect the public and the markets to the extent of their ability under the law. But on the other hand, overregulation prevents innovation to flourish and capitalize.²²¹ To balance both of these interests, regulators and agencies can review data from cryptocurrency issuers and grant exemptions from registration and clearing requirements or permit a scheme of substituted compliance.²²²

²¹⁷ See *supra* Part II(f) (discussing the ongoing compliance obligations required under the CFTC’s “Core Principles”).

²¹⁸ CFTC Regulation 40.5 (describing the procedures for designated contract markets to request CFTC approval of a new rule or a rule amendment regarding exchange trading or listing of exchange products); see also 7 U.S.C. § 7a-2(c)(3) (stating that the CFTC shall approve any new rule or rule amendment unless it finds that the rule or rule amendment would violate the CEA).

²¹⁹ ANTONOPOULOS at 1.

²²⁰ See Peter Van Valkenburg, *Framework for Securities Regulation of Cryptocurrencies*, COIN CENTER, 2–3 (Jan. 2016) (discussing how regulators focus on *how* cryptocurrencies are employed rather than *what* they are such that the “unintended result” is a “confounding cavalcade of seemingly contradictory conclusions”).

²²¹ RONALD H. FILLER AND JERRY W. MARKHAM, *REGULATION OF DERIVATIVE FINANCIAL INSTRUMENTS (SWAPS, OPTIONS, AND FUTURES)* 68 (West Academic 2014).

²²² See CFTC, Joint Press Statement of Leaders on Operating Principles and Areas of Exploration in the Regulation of the Cross-border OTC Derivatives Market, Release: pr6439-12 (Dec. 4, 2012). The Commission described the process of substituted compliance:

Regulators should acknowledge that, in some instances, the code built into distributed ledgers facilitates self-regulation, rendering some current rules obsolete.²²³ A blockchain platform reduces the need for intermediaries because the cryptographic algorithms and consensus features converge the clearing and settlement process—blockchains permit virtually immediate settlement with autonomous validation and transfer, eliminating the risk intermediaries were put in place to mitigate.²²⁴ Implementation of self-regulatory standards could permit flexibility that tracks technological developments and applies systematically across the growing decentralized ecosystem.

e. A Joint Regulatory Committee

While the SEC and CFTC have developed their own working groups aimed at researching at cryptocurrency and blockchain technologies, the agencies would benefit from a unified committee with members from both commissions.²²⁵ Segregated groups prevent the development of a comprehensive approach across agencies and only furthers the divide that complicates regulatory compliance, especially in the face of such an alien industry. A unified group would allow for members of both agencies to represent their concerns and values in shaping informed legislation and providing the industry with the clarity it needs to flourish.

VII. CONCLUSION

Escalating interest in cryptocurrencies has produced the onset of a slew of new products based on these modern virtual assets. While the complexity and diversity of financial instruments available in our global marketplaces only proliferates, the ability to categorically define such products under the law has greatly diminished. Regulators have recognized the transformative potential of blockchain technologies and have allotted significant resources to researching how they can be best implemented into our existing systems; however, authorities maintain inconsistent views on regulating virtual currencies. Since the intricate details of each product will necessarily dictate jurisdiction, a comprehensive approach aiming towards uniformity is necessary now more than ever.

In permitting the use of substituted compliance, the authority must first determine that the entities are already subject to comparable regulation, supervision and comprehensive oversight of compliance, by virtue of the fact that: (i) the foreign regulation and oversight meet the same regulatory objectives; and (ii) the foreign regulator has the authority and means to support and enforce compliance by relevant foreign participants, intermediaries and infrastructures. It should be noted that in some jurisdictions' regulatory systems, this registration process is characterized as "recognition." *Id.*

²²³ Finextra, *Banking on the Blockchain* 42 (Jan. 2016), available at <https://www.ingwb.com/media/1609652/banking-on-blockchain.pdf>.

²²⁴ Gareth Peters & Efstathios Panayi, *Understanding Modern Banking Ledgers through Blockchain Technologies: Future of Transaction Processing and Smart Contracts on the Internet of Money*, 28 (Nov. 19, 2015) (describing trades that clear bilaterally on a private blockchain in less than 17 seconds).

²²⁵ See *supra* Part V(c)–(d) (discussing the SEC and CFTC's development of working groups focused on blockchain technologies).

